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CURRENT LITERATURE.

BOOK REVIEWS.

Handbook of systematic botany.

THE first volume has appeared of a handbook on systematic botany by Dr. Richard R. v. Wettstein,¹ of the University of Vienna. We do not often have texts that confine themselves so closely and accurately to the subject as does this very excellent outline of classification. Its aim is to give a general view of the plant kingdom with especial reference to the evolution of phylogenetic lines. Prefacing the special parts, which deal specifically with the groups of plants, there is a general treatment of a number of interesting topics. There is first an historical account of the development of systematic botany, which one wishes were longer. This is followed by discussions of the conditions which lead to the development of lines (*phyla*) of ascent and the sort of evidence of value in the determination of the same. There is an excellent account of the methods of systematic botany and the data of most value in studies on classification. Admirable illustrations are presented of analogous and homologous organs, rudimentary structures and juvenile forms. Finally the author considers the origin of new forms on the supposition of phylogenetic evolution, or in other words the principles of Darwinism. This is in the main a simple account of evolutionary factors, and is particularly good in the treatment of adaptation and the changes in species effected directly by environment. At this point the author shows clearly the importance of the so-called ecological factors in the definition and adjustment of species.

Following the short general part, which is only forty-four pages long, comes the special part that will deal entirely with the various groups.

The present volume ends with the thallophytes, but we are promised the completion of the subject next year. The author divides the plant kingdom into seven branches, as follows: 1) Myxophyta, 2) Schizophyta, 3) Zygo-phyta, 4) Euthallophyta, 5) Phaeophyta, 6) Rhodophyta, and 7) Cormophyta. The success of a division into great groups depends primarily upon the balance maintained, and this one has some peculiar disadvantages in its lack of symmetry. It will hardly be questioned that branches 1, 2, 3, 5, and 6 are well differentiated phyla or closely related groups of phyla. But this simplicity is all out of proportion to the complex conditions presented in the

¹ WETTSTEIN, RICHARD V.: *Handbuch der systematischen Botanik.* Vol. I. 8vo. pp. vi + 201. figs. 762. Leipzig: Franz Deuticke. 1901.

Euthallophyta and Cormophyta. Passing to the detailed subdivision of the main groups, the descriptions of orders and families and the illustrations are generally very good. We note that the Protococcaceae and Hydrodictyaceae are placed at the bottom of the large order Siphoneae, a position that is certainly open to question. The Charales are reduced to a suborder of the same group, which seems curious for so highly specialized and well defined a line of development. Among the fungi the Brefeldian system is followed in part, with much of the arrangement in Engler and Prantl; and the classification of the Phaeophyta and Rhodophyta is a brief outline of the latter work. These two groups are not given the attention they deserve.—B. M. DAVIS.

MINOR NOTICES.

HERMANN VON SCHRENK has published¹ his address on "Factors which cause the decay of wood," delivered before the Western Society of Engineers on February 6 last. It deals with such topics as structure, chemical nature, and decay of wood, fungi and structural timbers, and preventive measures.—J. M. C.

THE THIRD FASCICLE² of the list of the genera of seed plants, according to the system of Engler, has just appeared. The general character of the work was stated in this journal³ in the notice of the first part. In the present signature 1352 genera are listed, bringing the number up to 3842, the list beginning with *Lychnis* (Caryophyllaceae) and ending with *Geoffraea* (Leguminosae).—J. M. C.

F. LAMSON-SCRIBNER⁴ has published a revised edition of the second part of his *American grasses*, the first edition having been exhausted. The work has been entirely rewritten, the synonymy has been revised or extended, and the descriptions are much fuller. The two parts now contain illustrations and descriptions of 627 species, and are invaluable to those who would name grasses.—J. M. C.

CHARLES V. PIPER and R. KENT BEATTIE⁵ have published a manual of the flora within a radius of about twenty-one miles around Pullman, Wash. This includes some twenty-four townships in Washington and eleven in

¹ Reprint from Jour. Western Soc. Engineers, May 1901.

² DALLA TORRE, C. G. DE, and HARMS, A.: Genera Siphonogamarum ad sistema Englerianum conscripta. Fasciculus tertius (signatura 21-30). Small 4to. pp. 161-240. Leipzig: Wilhelm Engelmann. 1901. M 4.

³ BOT. GAZ. 30:67. 1900.

⁴ American grasses. II. Revised edition. 8vo. pp. 349. Bulletin 17, Division of Agrostology, U. S. Department of Agriculture. 1901.

⁵ The flora of the Palouse region. 8vo. pp. viii + 208. Published by the Washington Agricultural College and School of Science, Pullman. May 14, 1901.